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I. The over-all quality of the photography is very good. Although scattered and heavy cloud cover was encountered, most of the target areas were cloud free. From a point about 30 nautical miles (nm) south of Tyura Tam to Kozhabul it was practically cloud free, with only a few clouds scattered along the flight path. However, scattered and heavy clouds were encountered at about $50^{\circ}15'N$, $60^{\circ}00'E$. This condition persisted along the route to about 15 nm south of Zlatoust, where heavy clouds and overcast prevailed to about 10 nm north of Magnitogorsk. There were scattered clouds from Magnitogorsk to about $50^{\circ}50'N$, $58^{\circ}30'E$. From this point to the Aral Sea, overcast and heavy clouds predominated. Nukus and Mary were cloud free.

II. This preliminary report will cover items of military significance in response to requirements levied by the intelligence community.

III. Summary

4125 provides initial photographic coverage of many of the great industrial complexes in the Urals area, including four major atomic energy plants. In addition, operational Soviet SAM sites, other than in the Moscow area, are seen for the first time. Invaluable information is obtained on the development and expansion of the Tyura Tam Missile Test Range during the period of 23 months since the previous TALENT cover. Comparative cover is also pro-

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4125 also covers some 33 airfields. Six of these, one of which is under construction, are major new fields. The remaining 27 include six major fields, fifteen minor fields and landing areas, and two over which cloud cover precludes detailed interpretation. A total of 606 aircraft were observed, including 210 Fagot/Fresco, 148 Beagle, 28 Bull, and one Badger.

Much of the area covered by 4125 is characterized by extensive mining activity and ore processing plants. Established villages and cities have undergone great expansion and many entirely new communities dot the countryside. Available maps are spectacularly inadequate.

IV. DETAILS

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Page 9 of 26 pages**B. Guided Missiles****1. Tyura Tam Missile Test Range (TTMTR)**

Excellent coverage of the TTMTR rangehead area reveals some significant changes since the last photographic coverage in August 1957. The most striking change is the addition of another rail line leading to what appears to be another major launching area now under construction.

Only one launching pad (old Area A) is currently available for flight tests. No separate static test facilities were detected. A missile is not sitting on the launching pad; no missiles or unusual rail vehicles were detected in the rangehead area.

The rangehead and supporting areas, as known from the 1957 photography, appear to be essentially completed; the major current construction activity involves the facilities associated with the new rail line.

A major new rail-served launch area is now under construction, approximately ten miles east of the original launch site. This rail branch is approximately fifteen miles long, extending from the original N/S service line in an ENE direction. Parallel to this branch is a road and water line.

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Although the launch area is only about 30% complete, construction activity indicates it will have a striking similarity to the original launch area (Area A). However, the terminal curve in the rail line and the apparent location of the launching structure and pit indicates a NNW orientation rather than the east orientation of Area A. The launch area appears to be enclosed by a single security fence within which certain facilities are in the early stages of construction. These include an apparent launching structure and pit, a probable building, an excavation probably for a control bunker, and a probable check-out facility. In the immediate vicinity of the launch area there is a construction support area containing approximately 30 buildings, a concrete batch plant and numerous vehicles.

Located approximately 10 miles WSW of the new launch area along the new rail branch is an area served by two rail spurs and marked by considerable track activity. Although the area is in an early construction stage, 25 buildings of various sizes, a concrete batch plant, and two probable storage tanks are noted. It appears that this area may be a supporting complex for the new launch area.

There does not appear to be any major significant change in the original Launch Area (Area A). The current photography reveals more details of the launching pad, permitting a better appraisal of its construction.

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A conduit from the control bunker to the launching platform, an unidentified structure adjacent to the launching platform, and one building have been added to launch Area A since the 1957 coverage. The crane and/or servicing tower on the launching pad appears to be the same height - about 65 feet. Ten rail cars are located in Area A.

Area B does not appear to be a launching area. There are no significant changes. The rail and road net, a water treatment facility, and a few small structures near the drive-through building have been completed.

No major changes are noted in the support facilities within the launch area. There are about 20 new buildings in the area. A small road-served, possibly fenced area south of the water treatment facility contains about 7 miscellaneous buildings. Another road-served, fenced area south of the railroad repair shop contains one small building and numerous unidentified objects.

The propellant production and storage area appears completed. It is fenced and the rail spur into the production area is completed.

A new area, served by road, rail, and water lines, is under construction just west of the main N/S rail line at a point slightly south of the propellant area. The area contains a rail-served building under construction (125' x 50') and a flat-roofed, rail drive-in building (105 by 20 feet).

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The latter building has three rail cars at its entrance, and is similar to the probable propellant building located near the launch pad (Area A).

The Support Base along the river is generally the same as in 1957. The main power plant is now operational with a new associated water treatment facility. The storage and construction area has six new rail spurs in Area "C" serving large buildings. The airfield's 3600-foot runway is now hard-surfaced and had 3 COLT, 4 CRATE, 5 CAB, 5 HOUND, and 2 probable CREEKS at the time of coverage. Other facilities in the support base area, including communication Area B, are relatively unchanged. A total of approximately 30 new structures are scattered through the support base.

2. Hexagon SAM Sites

Seventeen Hexagon SAM sites have been identified in the Sverdlovsk, Chelyabinsk, Nizhniy Tagil, and Magnitogorsk areas. Four of these sites are operational, two others are nearing completion and the rest are in varying stages of construction. Each site consists of six drive-through revetments arranged in a hexagonal pattern. Roads serving the revetments are arranged in a pattern which has not been previously observed in the USSR.

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A typical site consists of a fenced area 1250 feet square containing six drive-through revetments (65 by 50 ft.) arranged in a hexagonal pattern 250 feet on a side. A service road surrounding the launching area forms a circle 900 feet in diameter. An elaborate network of loop roads within the circle connects the revetments with the service road. Three missile hold revetments, each capable of accommodating two missiles, are located adjacent to the circular road. Several revetments containing vehicles are located in the center of the site. A support area is located outside the fenced area. In one site launch equipment and a trailer carrying one missile were observed in a drive-through revetment. In another site two of the missile hold revetments contained two missiles each. All the missiles observed were approximately 25X1 feet in length.

A comparison of the drive-through revetments and a preliminary study of the launchers reveals a similarity between these SAM sites

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Page 14 of 26 pagesTABULATION OF HEXAGON SAM SITES
WITH PROBABLE ASSOCIATED CITIESSVERDLOVSK

<u>Coordinates</u>	<u>Distance/Direction from City</u>	<u>Stage of Construction</u>	
56°15'N/60°30'E	35 NM	South	Early
57°08'N/59°40'E	35 NM	NNW	Early
57°20'N/59°50'E	35 NM	NW	Mid
57°30'N/60°14'E	35 NM	NNW	Operational
56°18'N/60°53'E	35 NM	SSE	Early
57°00'N/60°53'E	14 NM	NE	Mid
56°43'N/60°57'E	14 NM	SE	Late

CHELYABINSK

54°55'N/61°30'E	14 NM	SSE	Mid
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MAGNITOGORSK

53°15'N/58°58'E	13 NM	SSW	Operational
53°38'N/59°08'E	13 NM	NNE	Late

NIZHNIY TAGIL *

57°35'N/59°35'E	24 NM	SW	Early
58°28'N/59°32'E	35 NM	NNW	Early
58°05'N/59°56'E	10 NM	NNW	Mid

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Page 15 of 26 pagesVERKOTUR'YE *

58°41'N/59°50'E	33 NM	SW	Operational
58°38'N/59°27'E	44 NM	WSW	Mid
58°41'N/60°07'E	23 NM	SW	Operational

ZLATOUST *

54°52'N/58°40'E	35 NM	SW	Mid
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* There are numerous other large cities in the vicinity of Nizhniy Tagil, Verkotur'ye, and Zlatoust with which these sites could be associated.

3. Other Possible Missile Activity

In the area north of Tyura Tam and east of Aral'sk, the following possible missile-associated activities were noted:

Malibash, (45°49'N, 62°38'E) - possible impact area
for the Kapustin Yar Missile Test Range (KYMTR).

Two possible instrumentation sites -

(46°42'N, 62°53'E) (47°10'N, 62°20'E)

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C. AIRFIELDS

1. Airfield under construction, 7 nm SSW of Nukus (NEW).

$42^{\circ} 21' N - 59^{\circ} 32' E$

No aircraft observed.

7,300' x 160' blacktop runway.

2. Mary (North) Airfield (NEW)

$37^{\circ} 39' N - 61^{\circ} 50' E$

Aircraft observed: 1 BEAGLE, 51 FAGOT, 1 CREEK.

10,500' oiled packed-earth runway.

3. KUMAK AIRFIELD (NEW)

$51^{\circ} 18' N - 58^{\circ} 54' E$

Aircraft observed: 13 BEAGLE.

11,000' packed earth runway probably being extended to 16,000'.

4. DOMBAROVSKIY AIRFIELD (NEW)

$50^{\circ} 49' N - 59^{\circ} 32' E$

Aircraft observed: 36 BEAGLE.

8,000' concrete runway.

Possible special weapons storage area.

5. TROITSK AIRFIELD (NEW)

$54^{\circ} 07' N - 61^{\circ} 32' E$

Aircraft observed: 78 FAGOT/FRESCO, 1 CREEK, 1 COLT.

6000' x 150' paved runway.

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6. Airfield located 1 nm SW KHALILOVO (NEW)

$51^{\circ} 23'N$ - $58^{\circ} 05'E$

Aircraft observed: 29 BEAGLE, 1 BULL.

11,000' sod runway.

7. SVERDLOSK/KOLTSOVO AIRFIELD

$56^{\circ} 45'N$ - $60^{\circ} 49'E$

Aircraft observed: 1 BEAGLE, 3 FAGOT/FRESCO, 15 COACH/CRATE, 10 CAB, 2 CAT, 1 COOT, 3 CAMEL.

7000' x 200' and 3,000' x 150' concrete runways.

8. ORSK AIRFIELD

$51^{\circ} 16'N$ - $58^{\circ} 35'E$

Aircraft observed: 46 BEAGLE, 2 BULL.

Weapons storage area located 2300' SE of main runway.

6200' x 200' concrete runway and 10,500' x 450' sod runway.

9. NIZHNIY TAGIL AIRFIELD (NORTHEAST)

$57^{\circ} 59'N$ - $60^{\circ} 15'E$

Aircraft observed: 38 FAGOT, 1 CREEK.

6500' x 330' concrete runway.

10. MARY (NORTHEAST) AIRFIELD

$37^{\circ} 37'N$ - $61^{\circ} 54'E$

Aircraft observed: 36 FAGOT, 1 FRESCO, 1 CRATE, 1 CREEK.

7500' x 150' blacktop runway.

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11. DZHUSALY AIRFIELD

45° 31'N - 64° 05'E

No aircraft visible due to obliquity.

3 graded-earth runways.

12. CHELYABINSK AIRFIELD

55° 12'N - 63° 21'E

Aircraft observed: 13 CREEK, 9 U/I.

6600' x 2800' sod landing area.

13. BAKAL (WEST) AIRFIELD

55° 16'N - 61° 18'E

Aircraft observed: 1 BADGER, 11 BULL, 23 BEAGLE, 27 CAB, 8 assorted old
A/C in parking area.

6400' x 180' sod runway.

14. ORSK (SOUTH) AIRFIELD

51° 08'N - 58° 34'E

Aircraft observed: 3 CREEK, 1 COLT, 4 MAX, 1 unidentified liaison type.

5600' x 900' sod landing area.

15. TASHAVZ AIRFIELD

41° 50'N - 59° 55'E

Aircraft observed: 5 unidentified liaison type.

3 compacted-gravel runways, each under 5000'.

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16. SVERDLOVSK/ARAMIL AIRFIELD

56° 42'N - 60° 48'E

Aircraft observed: 3 FAGOT/FRESCO, 2 COACH/CRATE, 3 CAB, 1 COLT, 6 CREEK,
8 single engine trainers, 3 HOUND.

5800' x 2500' sod landing area.

17. SVERDLOVSK AIRFIELD

56° 47'N - 60° 38'E

Aircraft observed: 4 CREEK, 3 COLT, 7 MAX, 2 HOUND, 1 HARE.

Sod landing area.

18. Landing area located 28 nm WSW of MARY

37° 20'N - 61° 20'E

No aircraft observed.

8300' x 970' scraped landing area.

19. MARY AIRFIELD

37° 36'N - 61° 48'E

Aircraft observed: 3 CAB, 3 CREEK, 1 COLT, 6 HOUND.

5500' x 300' sod runway.

20. MAGNITOGORSK AIRFIELD

53° 22'N - 59° 05'E

Aircraft observed: 1 CAB, 3 COLT, 10 CREEK, 8 single engine trainers.

2500' diameter circular sod landing area.

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21. Airfield located 5 nm NNE of KUSA

$55^{\circ} 24'N$ - $59^{\circ} 27'E$

Aircraft observed: 1 COLT

1,100' x 500' sod landing area.

22. NUKUS AIRFIELD

$42^{\circ} 28'N$ - $59^{\circ} 37'E$

Aircraft observed: 3 CAB, 8 COLT, 3 CREEK.

Sod landing area.

23. KHODZHEYLI AIRFIELD

$42^{\circ} 25'N$ - $59^{\circ} 28'E$

Aircraft observed: 1 CAB

Sod landing area.

24. KIZIL'SKOYE AIRFIELD

$52^{\circ} 43'N$ - $58^{\circ} 54'E$

No aircraft observed.

1600' x 1250' sod landing area.

25. CHELYABINSK (SOUTHWEST) AIRFIELD

$55^{\circ} 07'N$ - $61^{\circ} 15'E$

Aircraft observed: 10 single-engine trainers.

Under 3,000' sod runway.

26. Airfield near BOL'SHOYE BALANDINO

$55^{\circ} 21'N$ - $61^{\circ} 31'E$

Aircraft observed: 4 CAB, 4 CRATE, 1 COLT, 6 CREEK

6000' x 4500' packed-earth landing area.

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27. VERKHNAYA SALDA LANDING AREA

58° 03'N - 60° 32'E

Aircraft observed: 3 CREEK.

Soviet landing area.

28. Airfield near UVEL'SKIY

54° 25'N - 61° 21'E

Aircraft observed: 14 BULL

No runway visible, cloud cover.

29. KAMENSK-URAL'SKIY AIRFIELD.

56° 25'N - 61° 55'E

No aircraft observed.

Landing strip partially obscured by smoke.

30. Four previously reported fields could not be confirmed, including:

Sverdlovsk Southeast A/F	56° 48'N - 60° 42'E
Chelyabinsk East A/F	55° 07'N - 61° 29'E
Chelyabinsk North A/F	55° 13'N - 61° 21'E
Chelkar A/F	47° 50'N - 59° 36'E

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D. Other Installations

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2. Mary - ($37^{\circ}37'N/61^{\circ}48'E$)

A large training area utilized by a possible mechanized unit was noted. Training facilities include tank training ranges and probable driver training courses. Support areas include numerous tent areas with approximately 100 tents. The equipment noted in the area includes 13 artillery pieces, 20 tanks and/or self-propelled guns, and approximately 70 trucks and smaller vehicles. The entire area is characterized by extensive track activity.

Two fenced storage areas were also seen, one with 11 large revetted buildings (4 u/c) and one with 14 large warehouse-type buildings.

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3. Kara Kum Canal

The Kara-Kum Canal is complete from the Murgab watershed area near Mary ($37^{\circ}37'N$, $61^{\circ}48'E$) to the limit of the photography west of Kerki ($37^{\circ}52'N$, $65^{\circ}12'E$). The canal is well-diked between the Murgab watershed and Uch-Adzhi ($38^{\circ}05'N$, $62^{\circ}47'E$). East of Uch-Adzhi the canal has irregular banks.

4. Dombarovka - ($50^{\circ}53'N$, $59^{\circ}18'E$)

A railroad line is under construction leading southeast from the city.

5. Orsk Complex - ($51^{\circ}12'N$, $58^{\circ}35'E$)

The Orsk industrial complex includes two petroleum refineries, a nickel combine, POL storage, underground storage, extensive railroad yards, and military barracks areas.

6. Magnitogorsk - ($53^{\circ}25'N$, $59^{\circ}04'E$)

The Magnitogorsk industrial complex includes a cement plant, a power plant, a building materials complex, and the "Stalin" metallurgical combine.

7. Troitsk - ($54^{\circ}04'N$, $61^{\circ}37'E$)

A POL tank farm is partially cloud-covered. Approximately 45 tanks 100 ft. in diameter are visible.

8. Chelyabinsk - ($55^{\circ}10'N$, $61^{\circ}24'E$)

The city is partially obscured by cloud cover, but there is excellent photo coverage of the Stalin Tank and Tractor Plant.

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9. Kopeysk - (55°06'N, 61°37'E)

An ammunition storage area and Shell Loading Plant 114 are double-fenced and rail served. The complex includes seven large and 11 medium-size revetted buildings.

10. Zlatoust - (55°11'N, 59°40'E)

The rolling mills and open hearth building of the Zlatoust Steel Plant "Stalin" are visible.

11. Verkhniy Ufaley - (56°04'N, 60°13'E)

The Verkhniy Ufaley industrial complex includes a large nickel-cobalt plant; an explosives storage area; and an unidentified industry under construction, half of which is completed and fenced. Approximately 15 nm NE of the city is an unidentified road-served installation with three covered revetments.

12. Kamensk-Ural'skiy - (56°26'N, 61°53'E)

Alumina and aluminum plants are visible on far oblique photography.

13. Polevskoy - (56°27'N, 60°10'E)

Scattered to heavy cloud cover precludes detailed study of the Polevskoy Synthetic Cryolite and Hydroflouric Acid Plant.

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14. Revda - (56°47'N, 59°56'E)

The Revda Copper Smelter Combine is visible on far oblique photography.

15. Sverdlovsk - (56°50'N, 60°38'E)

Important installations covered include:

- a. Sverdlovsk Arms Plant #8
- b. Sverdlovsk Petroleum Storage
- c. Sverdlovsk Thermal Power Plant
- d. Uralkhimash
- e. Sverdlovsk Ordnance Plant
- f. A large high-frequency broadcasting station

similar to those previously reported at Novosibirsk, Alma Ata, Stalinabad, Tbilisk, Komsomol'sk and Tashkent.

g. A Krug installation is located east of the city in the vicinity of Mallyy Istok (50°46'N, 60°51'E).

h. ENE of the Krug installation is an unidentified heavily-secured installation (protected by a wall and two fences).

16. Nizhniy Tagil - (57°54'N, 59°58'E)

Important installations covered include:

- a. Kaganovich Tank and Railroad Car Plant Ordzhonikidze No. 63
- b. Ammunition Loading Plant No. 56, with large explosives storage area

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c. Metallurgical Plant Novo Tagil

d. An armaments test area five nm southeast of the city.

17. Verknyaya Salda - (58°03'N, 60°34'E)
Two large industries (possibly metal fabrication) are under construction.

18. Nizhnyaya Salda - (58°04'N, 60°43'E)
An unidentified secure installation under construction is located NE of and connected to Nizhnyaya Salda by a railroad spur also under construction.

19. Krasnoural'sk - (58°20'N, 60°04'E)
A fenced ammunition storage area contains 133 revetted buildings.

20. Yanyushina - (58°45'N, 60°20'E)
A large military installation with numerous antiaircraft training positions is located about five nm south of the village.

21. Krasnoturinsk - (59°46'N, 60°12'E)
The industrial complex includes a large aluminum plant, the Krasnoturinsk Aluminum Combine Bogoslovsk.

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